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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/734,801	12/12/2000	Roland Carlsson	EricPotter	5194
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DANN, DORFMAN, HERRELL & SKILLMAN 1601 MARKET STREET SUITE 2400 PHILADELPHIA, PA 19103-2307				
EXAMINER CHUNDURU, SURYAPRABHA				
ART UNIT PAPER NUMBER				
1637				

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/734,801

Applicant(s)

CARLSSON ET AL.

Examiner

Suryaprabha Chunduru

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicants' response to the office action filed on June 1, 2004 has been entered and considered.
2. The instant application is filed on December 12, 2000, which claims no priority date.
3. Claims 1-7 are pending.

Response to arguments

4. Applicants' response to the office action is fully considered and found persuasive.
5. With reference to the rejection made in the previous office action under 35 USC 103 (a), applicants' arguments are fully considered and the rejection is withdrawn in view of the arguments.

New Grounds of Rejections

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thill (USPN. 6, 632,610) in view of Krebber (USPN. 6,337,186).

Thill teaches a method of claim 1, 3, for generating a polynucleotide sequence or population of sequences from parent single stranded polynucleotide sequences encoding one or more protein motifs comprising

(a) providing single stranded polynucleotide sequences constituting plus and minus strands of parent polynucleotide sequences (see col. 5, lines 11-17, col. 13, lines 14-18, col. 10, lines 20-25, col. 15, lines 11-17);

(b) optionally the size of the polynucleotides is reduced by fragmentation (see col. 5, lines 27-31);

(c) contacting said first population of polynucleotides (plus strands) with the second single stranded polynucleotides (minus strands) under annealing conditions to form a duplex hybrid (see col. 5, lines 18-20);

(d) amplifying the fragments that anneal to each other to generate a polynucleotide sequence encoding altered characteristics (see col. 5, line 23-25, col. 7, line 1-11).

With regard to claims 2 and 7, Thill also teaches amplification of annealed polynucleotides by PCR using primers designed to hybridize polynucleotide ends (3' and 5'-ends) (see col. 31, line 7-21)

However, Thill did not teach digesting or fragmenting said single stranded polynucleotides using an exonuclease.

With regard to claim 1, Krebber teaches a method for producing polynucleotides with desired properties wherein Krebber discloses that the method comprises digesting polynucleotides using processive exonucleases such as Bal31 or exonuclease III to generate polynucleotides with different lengths to carry a deletion or insertion mutations (see col. 9, line 15-45). With regard to the instant claims 3-6, Krebber also teaches that the parental population of fragments is subjected to mutagenesis using error-prone PCR (see col. 13, line 25-44).

Therefore, it would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made, to combine a method of generating a polynucleotide sequence encoding one or more protein motifs as taught by Thill with the step of digesting polynucleotides by an exonuclease digestion to achieve an expected benefit of developing an improved method for generating a polynucleotide with altered characteristics because Krebber taught the use of a processive exonuclease in reducing size of the polynucleotides and help in enhancing the characterizing larger genes using a bacteriophage as a vector (see col. 9, line 17-45). An ordinary practitioner would have been motivated to combine the method of Thill with the step of adding an exonuclease to fragment polynucleotides as taught by Krebber to enhance the sensitivity and specificity of the assay because incorporating the exonuclease digestion would improve the characterization of new and longer genes by screening a population of fragments cloned into bacteriophage vectors, which especially package single-stranded polynucleotides.

Conclusion

No claims are allowable.


Any inquiry concerning this communication or earlier communications from the

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examiner should be directed to Suryaprabha Chunduru whose telephone number is 571-272-0783. The examiner can normally be reached on 8.30A.M. - 4.30P.M, Mon - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571-272-0782. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and - for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.


Suryaprabha Chunduru
September 10, 2004


JEFFREY FREDMAN
PRIMARY EXAMINER

9/9/04